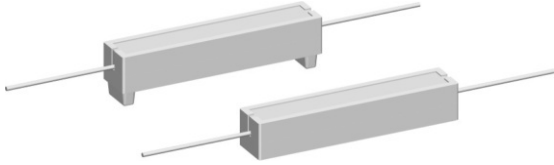


Wirewound/Metal Oxide Resistors, Commercial Power, Axial Lead



FEATURES

- High performance for low cost
- High power to size ratio
- Ceramic cases are available with circuit board stand-offs (designated with a ...3 model ending)
- Special cement potting compound and ceramic case provide high thermal conductivity in a fireproof package



RoHS
COMPLIANT

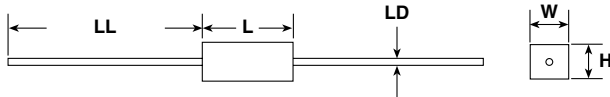
STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING $P_{40\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE (Ω) $\pm 5\%$, $\pm 10\%$		WEIGHT (typical) g
		WIREWOUND	METAL OXIDE	
CP0002	2	0.1 - 100	101 - 30K	2.0
CP0003	3	0.1 - 100	101 - 33K	3.4
CP0005	5	0.1 - 100	101 - 50K	3.6
CP0005...3	5	0.1 - 100	101 - 50K	4.8
CP0007	7	0.1 - 100	101 - 50K	5.0
CP0007...3	7	0.1 - 100	101 - 50K	6.8
CP0010	10	0.1 - 100	101 - 50K	9.5
CP0010...3	10	0.1 - 100	101 - 50K	9.9
CP0015	15	0.1 - 100	101 - 50K	16.8
CP0020	20	0.1 - 100	101 - 50K	22.8

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	WIREWOUND CHARACTERISTICS
Temperature Coefficient	ppm/ $^\circ\text{C}$	± 400
Short Time Overload	-	5 x rated power for 5 s
Terminal Strength	lb	10 minimum
Operating Temperature Range	$^\circ\text{C}$	- 65/+ 275
Dielectric Withstanding Voltage	V_{AC}	1000
Maximum Working Voltage	V	$(P \times R)^{1/2}$
METAL OXIDE CHARACTERISTICS		
Temperature Coefficient	ppm/ $^\circ\text{C}$	± 400
Short Time Overload	-	5 x rated power for 5 s
Terminal Strength	lb	10 minimum
Operating Temperature Range	$^\circ\text{C}$	- 65 to + 275
Dielectric Withstanding Voltage	V_{AC}	1000
Maximum Working Voltage	V	$(P \times R)^{1/2}$

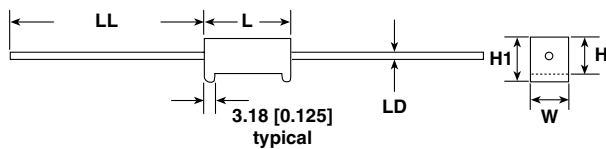
GLOBAL PART NUMBER INFORMATION																	
Global Part Numbering Example: CP000515R00JE663																	
C	P	0	0	0	5	1	5	R	0	0	J	E	6	6	3		
GLOBAL MODEL (See Standard Electrical Specifications Global Model column for options)		VALUE R = Decimal K = Thousand R1500 = 0.15 Ω 1K500 = 1500 Ω		TOLERANCE J = $\pm 5.0\%$ K = $\pm 10.0\%$		PACKAGING E66 = Lead (Pb)-free, bulk			SPECIAL (Dash Number) (up to 3 digits) From 1 - 999 as applicable								

DIMENSIONS in inches [millimeters]

CPxxxx



CPxxxx...3



GLOBAL MODEL	DIMENSIONS in inches [millimeters]					
	L (1) ± 0.060 [1.5]	W ± 0.040 [1.0]	H ± 0.040 [1.0]	H1 ± 0.060 [1.5]	LD ± 0.002 [0.05]	LL ± 0.120 [3.0]
CP0002	0.71 [18]	0.276 [7]	0.276 [7]	-	0.0256 [0.65]	1.378 [35]
CP0003	0.87 [22]	0.315 [8]	0.315 [8]	-	0.031 [0.8]	1.378 [35]
CP0005	0.87 [22]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0005...3	0.87 [22]	0.394 [10]	0.354 [9]	0.413 [10.5]	0.031 [0.8]	1.378 [35]
CP0007	1.38 [35]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0007...3	1.38 [35]	0.394 [10]	0.354 [9]	0.472 [12]	0.031 [0.8]	1.378 [35]
CP0010	1.89 [48]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0010...3	1.89 [48]	0.394 [10]	0.354 [9]	0.472 [12]	0.031 [0.8]	1.378 [35]
CP0015	1.89 [48]	0.492 [12.5]	0.453 [11.5]	-	0.031 [0.8]	1.378 [35]
CP0020	2.36 [60]	0.551 [14]	0.531 [13.5]	-	0.031 [0.8]	1.378 [35]

Note

(1) Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

MATERIAL SPECIFICATIONS

Element: Wirewound = Copper-nickel alloy or nickel-chrome alloy, depending on resistance value
Metal Oxide = High temperature fired Metal Oxide film

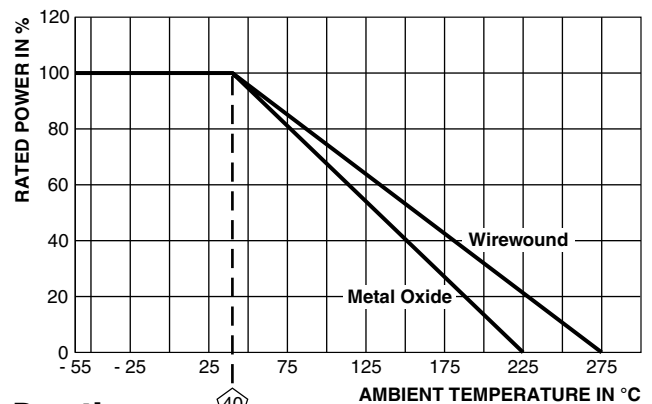
Core: Wirewound = Woven fiberglass
Metal Oxide = Ceramic

Body: Steatite ceramic case with cement potting compound

End Caps: Tin plated steel

Terminals: Tinned copper

Part Marking: DALE, model, wattage, value, tolerance, date code



Derating

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	- 55 °C to + 275 °C (+ 225 °C for Metal Oxide), 5 cycles, 30 min dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 s	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V _{rms} for 1 min	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Operation	- 65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) ΔR
Humidity	75 °C, 90 % - 100 % RH, 240 h	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	± (10.0 % + 0.05 Ω) ΔR
Terminal Strength	5 pounds for 30 s; body twisted about axis, 3 x 360° rotations	± (2.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body	± (4.0 % + 0.05 Ω) ΔR



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